

REMARKS

Claims 15-37 are pending in this application. It is noted with appreciation that claims 31-33 have been found to be allowable.

Claim 15 and 34-37 have been rejected under 35 U.S.C. 103(a) as obvious over Neuenschwander patent 4,539,485 in view of Smalser et al. patent 6,617,705; claims 16, 17, and 22 have been rejected under 35 U.S.C. 103 (a) as obvious over Neuenschwander and Smalser, further in view of Willyoung patent 5,654,602; claims 23-30 have been rejected under 35 U.S.C. 103(a) as obvious over these same three references, further in view of Korenaga patent 6,791,214; and claims 18-21 have been rejected under 35 U.S.C. 103(a) over the same three references, further in view of Ordinary Skill in the Art. Applicants respectfully traverse these grounds of rejection.

The Neuenschwander and Smalser Patents

The Neuenschwander reference merely teaches a wave power unit having a linear generator. It does not have “electromagnetic damping means,” as is acknowledged by the Examiner.

Smalser, a rotary wave powered generator, has been cited in an effort to supply the structure and teaching missing in Neuenschwander. The teaching of Smalser is for a protection means for a wave power unit where the impedance of the electrical load is increased in case the input energies are too high. However, the combined teachings of Neuenschwander and Smalser fail to make obvious Applicants’ claim 15.

As presented, claim 15 calls for the linear electric generator to have “electromagnetic damping means” by way of the “geometric configuration of at least one of the stator windings” and the “rotor magnets.” The effect is that the pulsation of the

magnetic force on the linear reciprocating rotor during a stroke is reduced such that the force during the stroke becomes more even.

Smalser not only does not address this problem, this reference does not have this effect. Smalser does not disclose or suggest the structure of claim 15 nor the effect achieved by that structure.

Where the device defined by claim 15 damps the magnetic force fluctuations, Smalser damps the movement. In other words, Smalser deals with the problem of damping the mechanical movements of the wave power unit in case of high energy level due to a storm or the like. The damping according to the present invention is made by the geometric configuration of the stator windings or the rotor magnets, or both, whereas the damping according to Smalser is made by increasing the impedance of the electric load on the generator upon response to a sensor sensing storm conditions or the like. The present invention and Smalser thus differ not only in the kind of damping that is to be obtained but also by the means through which the damping is achieved, which, of course, is a consequence of the fact that it is basically a different kind of damping. The result is that claim 15 defines a different structure for a different purpose with a different result as compared with Smalser.

Another point of distinction is that claim 15 specifies that the rotor of the generator is connected to the hull. In Smalser the hull is connected to a hydraulic cylinder. The hydraulic cylinder of Smalser drives a hydraulic motor and the motor drives an electric generator. The result is a completely different type of energy convection, where the wave energy is twice mechanically converted and is then converted to electric energy. Further, Smalser's generator is rotary while Applicants' generator is linear.

Absent Applicants' teachings, there would be no reason to attempt to combine the teachings of the linear wave motion generator of Neuenschwander with the rotary wave motion generator of Smalser. However, even if they are combined in some way, that combination fails to make obvious Applicants' claim 15 for the reasons advanced above.

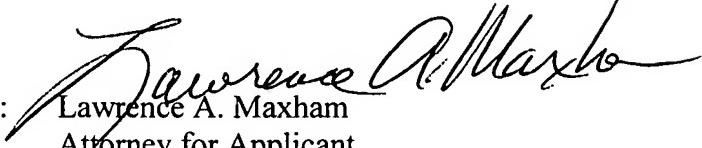
Claims 16-37 all depend from claim 15 and are believed to be free of the cited art for at least the same reasons as is claim 15. The other references combined with Neuenschwander and Smalser do not supply the relevant teachings that are missing in the main two references. Willyoung only relates to a generator winding and is unrelated to any of the structures of claims 16, 17, and 22. Likewise, Korenaga concerns a linear motor but has no bearing on the wave energy generator of the present invention. A recitation of Ordinary Skill in the Art provides no teaching or structure that would supply the teaching or structure not taught or suggested by Neuenschwander and Smalser.

CONCLUSION

In view of the above discussion, Applicants believe all of the claims in this application defined patentable invention over the prior art and requests reconsideration and allowance of these claims. Should any issues remain unresolved, Examiner Gonzalez is invited to telephone the undersigned attorney. The Commissioner is hereby authorized to charge any fees that arise in connection with this filing which are not covered by the money enclosed, or credit any overpayment, to Deposit Account No. 02-0460.

Respectfully submitted,

Hans Bernhoff et al.

By: 
Lawrence A. Maxham
Attorney for Applicant
Registration No. 24,483

THE MAXHAM FIRM
ATTORNEYS AT LAW
9330 SCRANTON ROAD, SUITE 350
SAN DIEGO, CALIFORNIA 92121
TELEPHONE: (858) 587-7659
FACSIMILE: (858) 587-7658